

Docket No.: 2038-304

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of :
:
Hiroki YAMAMOTO *et al.* : Confirmation No. 3549
:
U.S. Patent Application No. 10/705,228 : Group Art Unit: 1734
:
Filed: November 12, 2003 : Examiner: Kimberly Keil Mcclelland

For: PROCESS AND APPARATUS TO ATTACH ELASTIC MEMBERS TO
DISPOSABLE WEARING ARTICLE BEING CONTINUOUSLY MANUFACTURED

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Commissioner for Patents
U.S. Patents and Trademarks Office

Attn: BOARD OF PATENT APPEALS AND INTERFERENCES

APPELLANT'S BRIEF UNDER 37 C.F.R. § 41.37(C)

This brief is in furtherance of the Notice of Appeal, filed in this case on September 11, 2008.

The fees required under § 41.20 and any required petition for extension of time for filing this brief and fees therefore, are dealt with in the accompanying TRANSMITTAL OF APPEAL BRIEF.

Only one copy of this brief is required under § 41.37.

This brief contains these items under the following headings, and in the order set forth below (*37 C.F.R. § 41.37(c)*):

- I. Real Party in Interest.
- II. Related Appeals and Interferences.
- III. Status of Claims.
- IV. Status of Amendments.
- V. Summary of Claimed Subject Matter.
- VI. Grounds of Rejection to be Reviewed on Appeal.
- VII. Argument.
- VIII. Claims Appendix.
- IX. Evidence Appendix.
- X. Related Proceedings Appendix.

The final page of this brief bears the attorney's signature.

I. REAL PARTY IN INTEREST

The real party in interest in this appeal is UNI-CHARM Corporation of 182 Shimobun, Kinsei-cho, Shikokuchuo-shi, Ehime-ken 799-0111, JAPAN.

II. RELATED APPEALS AND INTERFERENCES

There are no other appeals or interferences that will directly affect, or be directly affected by, or have a bearing on the Board's decision in this appeal.

III. STATUS OF CLAIMS

A. Total Number of Claims in Application

There is a total of 20 claims in the application, which are identified as claims 1-3, 6-7, 9-10, 12-19, 22-23, and 25-27.

B. Status of all the claims

1. Claims cancelled: claims 4-5, 8, 11, 20-21, 24
2. Claims withdrawn from consideration but not cancelled: none
3. Claims pending: claims 1-3, 6-7, 9-10, 12-19, 22-23, and 25-27
4. Claims allowed: none
5. Claims rejected: claims 1-3, 6-7, 9-10, 12-19, 22-23, and 25-27

C. Claims on Appeal

Claims on appeal are claims 1-3, 6-7, 9-10, 12-19, 22-23, and 25-27 as rejected by the Final Office Action dated May 13, 2008 and the Advisory Action dated August 22, 2008.

IV. STATUS OF AMENDMENTS

Appellant filed an after-final Amendment on August 13, 2008.

The Examiner indicated in the August 22, 2008 Advisory Action that the August 13, 2008 after-final Amendment will be entered for purposes of appeal.

The claims as amended by the August 13, 2008 after-final Amendment are now presented, without markings, in the CLAIMS APPENDIX section.

V. SUMMARY OF CLAIMED SUBJECT MATTER

For the purpose of this appeal brief only, the claimed subject matter will be explained herein below with references to the specification by page and line number, and to the drawings by reference characters.

The invention of **independent claim 1** is directed to a process, comprising the steps of:

feeding at least a single continuous web (FIG. 3 at 103a, 103b) in a machine direction (FIG. 3 at MD) as a component member of a disposable wearing article (FIGs. 1-2 at 1, FIG. 6 at 91, FIG. 7 at 101) being continuously manufactured,¹

feeding continuous elastic members (FIGs. 3-4 at 121) toward at least one surface of said web (103a, 103b) while said continuous elastic members (121) are oscillated (FIG. 4) in a cross direction (FIG. 4 at CD) relative to said machine direction (MD),² and

attaching said continuous elastic members (121) in a stretched state to said one surface in accordance with a desired layout (FIGs. 1-2, 4, 6-7),³

wherein

in the step of feeding said web (103a, 103b), the web (103a, 103b) is fed to a nip between a pair of press rolls (FIG. 3 at 56, 57) substantially being in contact with each other and rotate in said machine direction (MD) around respective axes (FIG. 3 at 56a, 57a) extending parallel to each other in said cross direction (CD);⁴

¹ Specification at the paragraph bridging pages 11-12.

² *Id* at page 15, lines 10-16.

³ *Id* at page 10, lines 14-16 and page 3, lines 14-16.

⁴ *Id* at the paragraph bridging pages 12-13.

in the step of feeding said elastic members (121), the elastic members (121) are fed from upstream of said pair of press rolls (56, 57) to the nip between said press rolls (56, 57) via at least one guiding mechanism (FIGs. 3-4 at 54, 64) that oscillates said elastic members (121) in said cross direction (CD),⁵ and

in the step of attaching said elastic members (121) to said web (103a, 103b), the elastic members (121) are attached to said web (103a, 103b) by means of an adhesive (not shown);⁶

wherein each of said at least one guiding mechanism (54, 64) comprises:

a motor (FIG. 3 at 73) having a rotary shaft (FIG. 3 at 74) extending in a direction crossing said axes (56a, 57a) and adapted to repeat reversal of its rotational direction;⁷

an arm (FIGs. 3, 4 at 53, 63) connected directly with said rotary shaft (74) and extending in a direction crossing said rotary shaft (74), said arm (53, 63) being formed on its distal end (FIGs. 3-5 at 71) with a guiding element (FIG. 5 at 86) adapted for passage of said elastic members (121),⁸ and said arm (53, 63) being adapted to swing around said rotary shaft (74) as said rotary shaft (74) rotates, wherein said arm (53, 63) is formed from a composite material comprising carbon fiber and any one selected from the group consisting of thermoplastic synthetic resin and thermosetting synthetic resin, and has a specific gravity of 1.5 to 1.8 and a bending modulus of 98 to 201 GPa;⁹ and

at least one feed member (FIGs. 3-4 at 52, 62) located upstream of said rotary shaft (74) as viewed in said machine direction (MD) and adapted to direct said elastic members (121) toward said guiding element (86);¹⁰ and

wherein, in the course of running from said feed member (52, 62) to said pair of press rolls (56, 57) via said at least one guiding mechanism (54, 56), said elastic members (121) are attached to said web (103a, 103b) while said elastic members (121) are oscillated, at a

⁵ *Id.*

⁶ *Id.* at page 14, lines 5-14.

⁷ *Id.* at page 14, line 15 through page 15, line 5.

⁸ *Id.* at page 20, lines 7-11.

⁹ *Id.* at page 17, lines 7-16.

maximum angular acceleration of $15,000 \text{ rad/sec}^2$,¹¹ in said cross direction (CD) by said arm (53, 63) connected directly with said rotary shaft (74) so as to repeat reversal of its swinging direction;

said process further comprising arranging said axes (56a, 57a) of said press rolls (56, 57) horizontally, said rotary shaft (74) of said motor (73) vertically, and said arm (53, 63) to extend horizontally from said rotary shaft (74) toward said nip between said press rolls (56, 57).¹²

The invention of **independent claim 15** is directed to an apparatus (FIGs. 3-4) for feeding at least a continuous web (FIG. 3 at 103a, 103b) in a machine direction (FIG. 3 at MD) as a component member of disposable wearing articles (FIGs. 1-2 at 1, FIG. 6 at 91, FIG. 7 at 101) being continuously manufactured,¹³ feeding at least one continuous elastic member (FIGs. 3-4 at 121) toward at least one surface of said web (103a, 103b) while said at least one continuous elastic member (121) is oscillated in a cross direction (FIG. 4 at CD) transverse to said machine direction (MD),¹⁴ and attaching said at least one continuous elastic member (121) in a stretched state to said one surface in accordance with a desired layout,¹⁵ said apparatus comprising:

a pair of press rolls (FIG. 3 at 56, 57) substantially contacting each other, said press rolls (56, 57) being rotatable around respective axes (FIG. 3 at 56a, 57a) extending in said cross direction (CD) so as to feed said web (103a, 103b) in said machine direction (MD),¹⁶ and

¹⁰ *Id* at page 13, lines 13-18.

¹¹ *Id* at page 17, line 14.

¹² *Id* at page 5, lines 9-12.

¹³ *Id* at the paragraph bridging pages 11-12.

¹⁴ *Id* at page 15, lines 10-16.

¹⁵ *Id* at page 10, lines 14-16 and page 3, lines 14-16.

¹⁶ *Id* at the paragraph bridging pages 12-13.

a guiding mechanism (FIGs. 3-4 at 54, 64) located upstream of said press rolls (56, 57) as viewed in said machine direction (MD) to oscillate said at least one elastic member (121) in said cross direction (CD);¹⁷

wherein said guiding mechanism (54, 64) comprises:

a motor (FIG. 3 at 73) which has a rotary shaft (FIG. 3 at 74) extending in a direction transverse to said axes (56a, 57a) and is adapted to repeatedly reverse a rotational direction of said rotary shaft (74);¹⁸

an arm (FIGs. 3, 4 at 53, 63) connected directly with said rotary shaft (74) and longitudinally extending in a direction transverse to said rotary shaft (74), said arm (53, 63) being formed on a distal end (FIGs. 3-5 at 71) thereof with a guiding element (FIG. 5 at 86) through which said at least one elastic member (121) is passable, and said arm (53, 63) being adapted to swing around said rotary shaft (74) as said rotary shaft (74) rotates;¹⁹ and

at least one feed member (FIGs. 3-4 at 52, 62) located upstream of said rotary shaft (74) as viewed in said machine direction (MD) and adapted to direct said at least one elastic member (121) toward said guiding element (86);²⁰

wherein an axis of said rotary shaft (74) is stationary relative to the axes (56a, 57a) of said press rolls (56, 57);²¹ and

wherein said arm (53, 63) is formed from a composite material comprising carbon fiber and any one selected from the group consisting of thermoplastic synthetic resin and thermosetting synthetic resin, and has a specific gravity of 1.5 to 1.8 and a bending modulus of 98 to 201 GPa, thereby allowing the servomotor to repeatedly swing said arm (53, 63) at an angular acceleration of up to 15,000 rad/sec².²²

¹⁷ *Id.*

¹⁸ *Id.* at page 14, line 15 through page 15, line 5.

¹⁹ *Id.* at page 20, lines 7-11.

²⁰ *Id.* at page 13, lines 13-18.

²¹ FIGs. 3-4.

²² *Id.* at page 17, lines 7-16.

VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

A. First Ground of Rejection

The May 13, 2008 Final Office Action rejected claims 9, 11, 13, 15-19 and 22 under 35 U.S.C. 103(a) as being unpatentable over *Blenke* (U.S. Patent No. 5,525,173) in view of *Syndikus* (U.S. Patent No. 6,505,791) and *Uchida* (U.S. Patent No. 6,123,882).

The August 22, 2008 Advisory Action modified²³ this rejection to reject claims 9, 13, 15-19 and 22 under 35 U.S.C. 103(a) as being unpatentable over *Blenke* in view of *Syndikus*, *Uchida* and *Cordeiro* (U.S. Patent No. 6,895,835) under the same ground as previously stated.

B. Second Ground of Rejection

The May 13, 2008 Final Office Action rejected claims 1-2, 4, 6-7, 12, 14, and 23 under 35 U.S.C. 103(a) as being unpatentable over *Blenke* (U.S. Patent No. 5,525,173) in view of *Syndikus* (U.S. Patent No. 6,505,791) and *Uchida* (U.S. Patent No. 6,123,882) as applied to claims 9, 11, 13, 15-19 and 22, and further in view of *Herrmann* (U.S. Patent No. 5,660,664).

The August 22, 2008 Advisory Action modified²⁴ this rejection to reject claims 1-2, 6-7, 12, 14, and 23 under 35 U.S.C. 103(a) as being unpatentable over *Blenke* in view of *Syndikus*, *Uchida*, *Cordeiro* and *Herrmann* as previously stated.

C. Third Ground of Rejection

The May 13, 2008 Final Office Action rejected claim 3 under 35 U.S.C. 103(a) as being unpatentable over *Blenke* (U.S. Patent No. 5,525,173) in view of *Syndikus* (U.S. Patent No. 6,505,791), *Uchida* (U.S. Patent No. 6,123,882) and *Herrmann* (U.S. Patent No. 5,660,664) as applied to claims 1-2, 4, 6-7, 12, 14, and 23, and further in view of *Liu* (U.S. Patent No. 6,574,520).

²³ See August 22, 2008 Advisory Action, at Continuation of 13.

²⁴ *Id.*

The August 22, 2008 Advisory Action modified ²⁵ this rejection to reject claim 3 under 35 U.S.C. 103(a) as being unpatentable over *Blenke* in view of *Syndikus*, *Uchida*, *Cordeiro*, *Herrmann* and further in view of *Liu* as previously stated.

D. Fourth Ground of Rejection

The May 13, 2008 Final Office Action rejected claim 10 under 35 U.S.C. 103(a) as being unpatentable over *Blenke* (U.S. Patent No. 5,525,173) in view of *Syndikus* (U.S. Patent No. 6,505,791) and *Uchida* (U.S. Patent No. 6,123,882) as applied to claims 9, 11, 13, 15-19 and 22, and further in view of *Liu* (U.S. Patent No. 6,574,520).

The August 22, 2008 Advisory Action modified ²⁶ this rejection to reject claim 10 under 35 U.S.C. 103(a) as being unpatentable over *Blenke* in view of *Syndikus*, *Uchida*, *Cordeiro*, and further in view of *Liu*.

E. Fifth Ground of Rejection

The May 13, 2008 Final Office Action rejected claim 24 under 35 U.S.C. 103(a) as being unpatentable over *Blenke* (U.S. Patent No. 5,525,173) in view of *Syndikus* (U.S. Patent No. 6,505,791), *Uchida* (U.S. Patent No. 6,123,882) and *Herrmann* (U.S. Patent No. 5,660,664) as applied to claims 1-2, 4, 6-7, 12, 14, and 23, and further in view of *Cordeiro* (U.S. Patent No. 6,895,835).

F. Sixth Ground of Rejection

The May 13, 2008 Final Office Action rejected claims 9, 11, 13, 15-19 and 22 under 35 U.S.C. 103(a) as being unpatentable over *Blenke* (U.S. Patent No. 5,525,173) in view of *Syndikus* (U.S. Patent No. 6,505,791) and *Heikkila* (U.S. Patent No. 6,106,944).

The August 22, 2008 Advisory Action modified ²⁷ this rejection to reject claims 9, 13, 15-19, 22 and 27 under 35 U.S.C. 103(a) as being unpatentable over *Blenke* in view of *Syndikus*, *Heikkila*, and *Cordeiro*.

²⁵ *Id.*

²⁶ *Id.*

²⁷ *Id.*

G. Seventh Ground of Rejection

The May 13, 2008 Final Office Action rejected claims 1-2, 4, 6-7, 12, 14, 23 and 25-26 under 35 U.S.C. 103(a) as being unpatentable over *Blenke* (U.S. Patent No. 5,525,173) in view of *Syndikus* (U.S. Patent No. 6,505,791) and *Heikkila* (U.S. Patent No. 6,106,944) as applied to claims 9, 11, 13, 15-19, 22 and 27, and further in view of *Herrmann* (U.S. Patent No. 5,660,664).

The August 22, 2008 Advisory Action modified ²⁸ this rejection to reject claims 1-2, 6-7, 12, 14, 23 and 25-26 under 35 U.S.C. 103(a) as being unpatentable over *Blenke* in view of *Syndikus*, *Heikkila*, *Cordeiro* and further in view of *Herrmann*.

H. Eighth Ground of Rejection

The May 13, 2008 Final Office Action rejected claim 3 under 35 U.S.C. 103(a) as being unpatentable over *Blenke* (U.S. Patent No. 5,525,173) in view of *Syndikus* (U.S. Patent No. 6,505,791), *Heikkila* (U.S. Patent No. 6,106,944) and *Herrmann* (U.S. Patent No. 5,660,664) as applied to claims 1-2, 4, 6-7, 12, 14, 23 and 25-26, and further in view of *Liu* (U.S. Patent No. 6,574,520).

The August 22, 2008 Advisory Action modified ²⁹ this rejection to reject claim 3 under 35 U.S.C. 103(a) as being unpatentable over *Blenke* in view of *Syndikus*, *Heikkila*, *Cordeiro*, *Herrmann* and further in view of *Liu*.

I. Ninth Ground of Rejection

The May 13, 2008 Final Office Action rejected claim 10 under 35 U.S.C. 103(a) as being unpatentable over *Blenke* (U.S. Patent No. 5,525,173) in view of *Syndikus* (U.S. Patent No. 6,505,791) and *Heikkila* (U.S. Patent No. 6,106,944) as applied to claims 9, 11, 13, 15-19, 22 and 27, and further in view of *Liu* (U.S. Patent No. 6,574,520).

²⁸ *Id.*
²⁹ *Id.*

The August 22, 2008 Advisory Action modified ³⁰ this rejection to reject claim 10 under 35 U.S.C. 103(a) as being unpatentable over *Blenke* in view of *Syndikus*, *Heikkila*, *Cordeiro* and further in view of *Liu*.

J. Tenth Ground of Rejection

The May 13, 2008 Final Office Action rejected claim 24 under 35 U.S.C. 103(a) as being unpatentable over *Blenke* (U.S. Patent No. 5,525,173) in view of *Syndikus* (U.S. Patent No. 6,505,791), *Heikkila* (U.S. Patent No. 6,106,944) and *Herrmann* (U.S. Patent No. 5,660,664) as applied to claims 1-2, 4, 6-7, 12, 14, 23 and 25-26, and further in view of *Cordeiro* (U.S. Patent No. 6,895,835).

³⁰ *Id.*

VII. ARGUMENT

A. First Ground of Rejection

35 U.S.C. 103(a) rejection of claims 9, 13, 15-19 and 22 as being unpatentable over Blenke in view of Syndikus, Uchida and Cordeiro

The primary reference of *Blenke* appears to disclose an apparatus and method for applying curved elastics to a moving web. The elastics 22 as shown in FIG. 2 of *Blenke* are guided by guides 44/46 which are slidable in the cross direction (CD) 152 along slides 48. The guides 44/46 are optionally rotatable either in the direction indicated by arrow 81 (Figs. 2 and 2A) or in the direction indicated by arrow 86 (Fig. 2B). In the former case, a motor 82 (Fig. 2A) is provided at a location remote from the guides 44/46 and is indirectly coupled to the guides 44/46 via a plurality of belts and pulleys.³¹ In the latter case, a second servomotor (not shown) is provided to rotate the guides 44/46 about pivots 84.³² The reference does not include any disclosure of whether the shaft of such second servomotor is directly connected to the guides 44/46 or not. *Blenke* in the embodiment of Figs. 2 and 2A repeats the exact conventional structure criticized in the specification of the instant application,³³ i.e., using belts and pulleys to connect motor 82 to guides 44/46. The *Blenke* connection between motor 82 and guides 44/46 is indirect. In the alternative embodiment of Fig. 2B, *Blenke* does not provide an enabling disclosure of how any servomotor can be attached to the guides 44/46.

Syndikus is related to a thread traversing device.³⁴ The reference appears to disclose, in FIGs. 1-2, an arm 7 directly attached to a motor shaft 9.

Uchida discloses sheet material that is fiber-reinforced.³⁵ The sheet material may include carbon fibers and thermoplastic resins mixed at certain ratios.³⁶

³¹ *Blenke* at column 8 line 50.

³² *Id* at column 9 lines 5-10.

³³ Specification at page 2, lines 2-17.

³⁴ *Syndikus* at Title.

³⁵ *Uchida* at Title.

³⁶ *Id* at column 10 line 56 through column 11 line 12.

Cordeiro is directed to a method of improving performance in a motor-driven system.³⁷ The reference discloses, in Table 1, peak acceleration rate figures of commercially available servomotors.

Generally, the Examiner proposed to combine the *Blenke* system with the direct arm-to-shaft attachment of *Syndikus*, the fiber-reinforced material of *Uchida*, and the acceleration rate of *Cordeiro* to arrive at the claimed invention. Appellant respectfully traverses this erroneous rejection for at least one of the following reasons.

Rejections on obviousness cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness. *KSR International Co. v. Teleflex Inc.*, 550 U.S. at ___, 82 USPQ2d at 1396.

Independent Claim 15

(i) With respect to independent claim 15, the Examiner argued that it would have been obvious to substitute the directly attached arm of *Syndikus* for the pivoting means of *Blenke* to provide better control over the oscillating movement of the guide means.³⁸ The Examiner further explained that the directly attached arm of *Syndikus* would be more responsive to changes in direction and velocity versus the indirectly attached arm of *Blenke*, which would serve as the motivation to combine the references.³⁹ In this regard, it appears that the Examiner proposed to directly attach the *Blenke* “arm” 44/46 to the shaft of motor 82, as taught by *Syndikus*, so that the motor can directly control the swinging movement of “arm” 44/46. Appellant notes that this combination, if proper, would still require “arm” 44/46 to be translationally moveable in the cross direction (CD) 152 along slides 47/48.⁴⁰

(ii) Appellant also notes that the Examiner’s position that it would have been obvious to simply substitute one known element (the elongated arm of *Syndikus*) for another (the oscillating arrangement of *Blenke*) to achieve the predictable result of providing improved arm

³⁷ *Cordeiro* at Title.

³⁸ See May 13, 2008 Final Office Action at paragraph 8.

³⁹ *Id* at page 35, lines 10-13.

⁴⁰ *Blenke* at column 5 lines 21-46.

control during oscillations.⁴¹ In this regards, it appears that the Examiner proposed to *further* modify the combination of *Syndikus* and *Blenke* at (i) to eliminate the sliding capability of “arm” 44/46 so that the prior art combination would include “an axis of said rotary shaft is stationary relative to the axes of said press rolls” as recited in claim 15.

Appellant respectfully disagrees with the Examiner for the following reasons.

1. A person of ordinary skill in the art would *not* have *further* modify the *Blenke* and *Syndikus* combination, if proper as proposed by the Examiner at (i), in the manner proposed by the Examiner at (ii).

The simple reason is that the alleged “improved arm control during oscillations” has already presented in the *Blenke/Syndikus* combination at (i), due to the direct attachment of the “arm” 44/46 to the shaft of motor 82. The person of ordinary skill in the art would have recognized that the *Blenke* requirement for sliding capability of “arm” 44/46 has nothing to do with the swinging movement control of the “arm” 44/46, and then would not have eliminated the sliding capability of “arm” 44/46 from the *Blenke/Syndikus* combination as proposed by the Examiner at (ii).

2. *Blenke* teaches away⁴² from the Examiner’s proposed modification at (ii).

The reason is that additional translational/sliding movement that the Examiner proposed to eliminate is a must-have in the reference of *Blenke*. Specifically, *Blenke* teaches away from an oscillating structure with a single elongated arm as taught by *Syndikus*. The reason⁴³ is to avoid oscillations of great magnitude. This is the reason why the swinging mechanism of *Blenke* should be placed on moveable guides or “arm” 44/46 and produce oscillations of a relatively short radius (arrow 86, about center 84 in FIG. 2B of *Blenke*).⁴⁴ To replace the *Blenke* moveable, short-arm, small swinging magnitude structure with the fixed, elongated arm, large swinging magnitude structure of *Syndikus* as suggested by the Examiner would run counter to the *Blenke*’s

⁴¹ /d at page 35, lines 13-15.

⁴² It is improper to combine references where the references teach away from their combination. *In re Grasselli*, 713 F.2d 731, 743, 218 USPQ 769, 779 (Fed. Cir. 1983). *MPEP*, section 2145.X.D.2.

⁴³ See *Blenke* at column 1 lines 40-46.

requirement for small swinging magnitude and impermissibly change the operational principle of the reference being modified, i.e., *Blenke*.⁴⁵

The Examiner's response to the above argument in the May 13, 2008 Final Office Action⁴⁶ is not understood. It appears to be the Examiner's argument that *Syndikus* was made after *Blenke* and therefore there was no way *Blenke* would know about *Syndikus* to teach away from *Syndikus*. Such is not a correct argument. The essence of Applicants' argument is that a person of ordinary skill in the art, looking at the disclosures of *Blenke* and *Syndikus*, would have found one, i.e., *Blenke*, teaching away from the Examiner's proposed combination with the other, i.e., *Syndikus*. As a result, the person of ordinary skill in the art would not have combined the references in the manner suggested by the Examiner.

The Examiner's response to the above argument in the August 22, 2008 Advisory Action⁴⁷ is traversed, because it simply repeats the Examiner's positions discussed above. First, the Examiner has not clarified why a person of ordinary skill in the art, despite the *Blenke* apparent requirement for small magnitude oscillations and explicit teachings of undesirability of large magnitude oscillations, would have still used the long arm of *Syndikus*. Second, the Examiner mainly argued the direct v. indirect attachments of *Blenke* and *Syndikus* which is not the main point of Appellant's argument. Appellant's main point of this argument is that, even if the *Blenke* "arm" 44/46 was directly attached to motor 82 as taught by *Syndikus*, the *Blenke* requirement for slidable "arm" 44/46 would remain a must in such combination, contrary to the claimed invention.

3. The applied references singly or in combination do not fairly teach or suggest the claimed specific gravity of 1.5 to 1.8 and bending modulus of 98 to 201 GPa, previously recited in claim 22 and now claim 15.

⁴⁴ See, also *Blenke* at column 7 lines 61-65.

⁴⁵ If the proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims prima facie obvious. *In re Ratti*, 270 F.2d 810, 123 USPQ 349 (CCPA 1959) MPEP, section 2143.01.VI.

⁴⁶ See May 13, 2008 Final Office Action at paragraph 90.

⁴⁷ See August 22, 2008 Advisory Action at Continuation of 11, lines 1-12.

Examiner's rejection of claim 22⁴⁸ is traversed for at least the following reasons:

The Examiner argued that the claimed invention would have been obvious in the absence of the showing of criticality. Appellant respectfully submits that since a *prima facie* case of obviousness has not been properly established by the Examiner, Appellant is not required to demonstrate criticality of the claimed invention.

The Examiner further argued that the claimed invention was within the capabilities of a person of ordinary skill in the art. However,

A statement that modifications of the prior art to meet the claimed invention would have been “well within the ordinary skill of the art at the time the claimed invention was made” because the references relied upon teach that all aspects of the claimed invention were individually known in the art is not sufficient to establish a *prima facie* case of obviousness without some objective reason to combine the teachings of the references. *Ex parte Levengood*, 28 USPQ2d 1300 (Bd. Pat. App. & Inter. 1993).

The Examiner finally argued that the claimed invention would have been discoverable through optimization or routine experimentation. However,

A particular parameter must first be recognized as a result-effective variable, i.e., a variable which achieves a recognized result, before the determination of the optimum or workable ranges of said variable might be characterized as routine experimentation.” *In re Antonie*, 559 F.2d 618, 195 USPQ 6 (CCPA 1977) (emphasis added).

In this particular case, the Examiner has produced no evidence to prove that the art has recognized, at least, the claimed specific gravity and bending modulus as result-effective variables.

The Examiner's argument in the May 13, 2008 Final Office Action at paragraph 93 is not persuasive, because it contains no evidence of art-recognized result-effective variables, despite Appellant's request in the August 13, 2008 after-final Amendment, at paragraph 4. Further, although the arm's length might be related to the elastic pattern, it is unclear as to how arm's specific gravity or bending modulus might be related to such pattern.

⁴⁸ See May 13, 2008 Final Office Action at paragraph 16.

For any of the reasons detailed above at sections 1-3, Appellant respectfully submits that the rejection of claim 15 is erroneous and should be withdrawn.

The dependent claims are considered patentable at least for the reason(s) advanced with respect to independent claim 15.

Claim 16

Claim 16 depends on claim 1 and was improperly rejected under the same ground as claim 15.

If it was indeed the Examiner's intent to reject claim 16 under the same ground as claim 1, Appellant respectfully submits that claim 16 is separately patentable at least for the reason detailed in section 2 above with respect to claim 15.

Claim 17

Claim 17 depends on claim 1 and was improperly rejected under the same ground as claim 15.

If it was indeed the Examiner's intent to reject claim 17 under the same ground as claim 1, Appellant respectfully submits that claim 17 is separately patentable because the applied references, especially *Blenke*, does not teach or suggest the claim feature that "wherein portions of the cut elastic members that have not been attached to said web contract to a relaxed state and are located near transverse edges of the absorbent core." In *Blenke*, the entire elements 26, 28 (FIGs.5-6) are attached to the article, and therefore, there is no portion of elements 26, 28 that have not been attached to the article as presently claimed.

Claim 18

Claim 18 depends on claim 1 and was improperly rejected under the same ground as claim 15.

If it was indeed the Examiner's intent to reject claim 18 under the same ground as claim 1, Appellant respectfully submits that claim 18 is separately patentable because the applied

references, especially *Blenke*, does not teach or suggest the claim feature that “a stretching ratio of the elastic members fed by one guiding mechanism is different from that of the elastic members fed by the other guiding mechanism.” The cited teaching of *Blenke* is related to the elastic’s curvilinear path i.e., pattern, rather than stretching ratio as presently claimed.

The Examiner’s argument in the May 13, 2008 Final Office Action at paragraph 92 is not persuasive, because different patterns can still be obtained with the same stretching ratio, i.e., the *Blenke* teaching of different patterns is not indicative or suggestive of different stretching ratios.

Claim 22

The Examiner’s rejection of claim 22 is traversed for at least the reasons detailed above in section 3 with respect to claim 15.

In addition, the Examiner has not provided evidence of art-recognized result-effective variables, despite Appellant’s request in the August 13, 2008 after-final Amendment, at paragraph 4. Although the arm’s length might be related to the elastic pattern, it is unclear as to how arm’s weight might be related to such pattern.

Claim 22 is thus separately patentable over the references as applied by the Examiner.

Conclusion

For the reason(s) shown above, Appellant respectfully requests that the rejection under 35 U.S.C. 103(a), as to claims 9, 13, 15-19 and 22 be withdrawn.

B. Second Ground of Rejection

35 U.S.C. 103(a) rejection as to claims 1-2, 6-7, 12, 14, and 23 under 35 U.S.C. 103(a) as being unpatentable over Blenke in view of Syndikus, Uchida, Cordeiro and Herrmann.

Independent claim 1

The rejection of claim 1 is traversed for at least the reasons detailed above at sections 1-3 with respect to claim 15 which includes similar limitations to claim 1. The rejection of claim 1 is further traversed for the following additional reasons.

4. With respect to independent claim 1, the Examiner's reliance on *Herrmann* for the claimed horizontal arrangement of the arm is noted.⁴⁹ Appellant respectfully disagrees, because the Examiner's proposed combination of *Blenke/Syndikus* with *Herrmann* would have improperly changed the operation of the *Blenke* device being modified.⁵⁰

Blenke specifically requires the guides 44/46 to be maintained in the vertical orientation or perpendicular to the curvilinear paths 26 and 28, to ensure that the spacing between the elastic strands 22 remains substantially constant after they have been secured to the substrate 24.⁵¹ To rotate the *Blenke* device 90 degrees sideways as proposed by the Examiner in accordance with *Herrmann* would result in the *Blenke* guides 44/46 being oriented parallel to the curvilinear paths 26 and 28 and would defeat the intended purpose of the *Blenke* vertical arrangement of guides 44/46.⁵² Therefore, no person of ordinary skill in the art would have found it obvious to rearrange the *Blenke* vertical structure in the horizontal plane as argued by the Examiner.

⁴⁹ See May 13, 2008 Final Office Action at paragraph 20.

⁵⁰ If the proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims *prima facie* obvious. *In re Ratti*, 270 F.2d 810, 123 USPQ 349 (CCPA 1959) MPEP, section 2143.01.VI.

⁵¹ See, for example, *Blenke* at column 8 lines 36-41 and 50-55.

⁵² If proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification. *In re Gordon*, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984). MPEP, section 2143.01.V.

The Examiner's response to the above argument in the August 22, 2008 Advisory Action is noted.⁵³ Basically, the Examiner argued that the combination of *Blenke* with *Herrmann* would provide a new arrangement that would increase the process speeds, by a mere rearrangement of parts, without altering the operation of the *Blenke*. Appellant respectfully disagrees, because there is no evidence that the *Herrmann* horizontal arrangement would increase the process speed over that of the existing vertical arrangement of *Blenke*. In addition, the Examiner's proposed "rearrangement of parts" would defeat the intended purpose of the *Blenke* vertical arrangement of guides 44/46, and would not have been made by a person of ordinary skill in the art despite its simplicity.

5. The applied references singly or in combination do not fairly teach or suggest the claimed feature that "said elastic members ... are oscillated, at a maximum angular acceleration of 15,000 rad/sec², in said cross direction by said arm," previously recited in claim 24 and now claim 1.

Examiner's rejection of claim 24⁵⁴ is traversed for at least the reason detailed in the August 13, 2008 after-final Amendment, at page 10, the first full paragraph, i.e., the claimed amendment and process speed were unexpected from the art which fails to teach or suggest that such a high speed can be achieved in an elastic application process. The Examiner's reliance on *Cordeiro* is irrelevant, because the reference only teaches that certain servomotors can have peak accelerations within the claimed range. The reference, however, does not teach or suggest to a person of ordinary skill in the art that such a high acceleration can be achieved in a particular elastic application process as presently claimed. The Examiner's obviousness rationale is as flawed as the following: "A sport car can have a maximum speed of 200 mph, hence, it would have been obvious to drive the car on a rural road at that maximum speed."

The obviousness rejection relying on *Cordeiro* is therefore improper and should be withdrawn.

⁵³ See August 22, 2008 Advisory Action at Continuation of 11, lines 13-20.

⁵⁴ See May 13, 2008 Final Office Action at paragraph 39.

For any of the reasons detailed above at sections 1-5, Appellant respectfully submits that the rejection of claim 1 is erroneous and should be withdrawn.

The dependent claims are considered patentable at least for the reason(s) advanced with respect to independent claim 1.

Claim 7

The applied references singly or in combination fail to disclose, teach or suggest that “said elastic members extend from said feed member to said guiding element at a deviation angle of 10° or less relative to a horizontal plane” because the *Blenke* vertical arrangement cannot be rearranged vertically as argued above in section 4.

In addition, the Examiner’s argument ⁵⁵ calls for a horizontal arrangement of the arm, without any deviation angle. Thus, the references *as applied by the Examiner* do not teach or suggest the claimed invention.

Claim 7 is thus separately patentable over the references as applied by the Examiner.

Claim 12

Claim 12 depends on claim 15 and was improperly rejected under the same ground as claim 1.

If it was indeed the Examiner’s intent to reject claim 12 under the same ground as claim 15, Appellant respectfully submits that claim 12 is separately patentable because the applied references are not combinable to include the claimed horizontal arrangement for at least the reasons detailed above in section 4.

Claim 14

Claim 14 depends on claim 15 and was improperly rejected under the same ground as claim 1.

⁵⁵ See May 13, 2008 Final Office Action at paragraph 27.

If it was indeed the Examiner's intent to reject claim 14 under the same ground as claim 15, Appellant respectfully submits that claim 14 is separately patentable because the applied references are not combinable to include the claimed invention for at least the reasons detailed above with respect to claim 7.

Claim 23

The applied references singly or in combination fail to disclose, teach or suggest the claimed weight range for at least the reasons as argued above with respect to claim 22.

Claim 23 is thus separately patentable over the references as applied by the Examiner.

Conclusion

For the reason(s) shown above, Appellant respectfully requests that the rejection under 35 U.S.C. 103(a), as to claims 1-2, 6-7, 12, 14, and 23 be withdrawn.

C. Third Ground of Rejection

35 U.S.C. 103(a) rejection as to claim 3 under 35 U.S.C. 103(a) as being unpatentable over Blenke in view of Syndikus, Uchida, Cordeiro, Herrmann and further in view of Liu.

Claim 3

The rejection of claim 3 is traversed for at least the reasons detailed above at sections 1-5 with respect to claim 1.

Conclusion

For the reason(s) shown above, Appellant respectfully requests that the rejection under *35 U.S.C. 103(a)*, as to claim 3 be withdrawn.

D. Fourth Ground of Rejection

35 U.S.C. 103(a) rejection as to claim 10 under 35 U.S.C. 103(a) as being unpatentable over Blenke in view of Syndikus, Uchida, Cordeiro, and further in view of Liu.

Claim 10

The rejection of claim 10 is traversed for at least the reasons detailed above at sections 1-3 with respect to claim 15.

Conclusion

For the reason(s) shown above, Appellant respectfully requests that the rejection under *35 U.S.C. 103(a)*, as to claim 10 be withdrawn.

E. Fifth Ground of Rejection

35 U.S.C. 103(a) rejection as to claim 24.

The rejection of claim 24 is moot as claim 24 has been cancelled.

Conclusion

For the reason(s) shown above, Appellant respectfully requests that the rejection under *35 U.S.C. 103(a)*, as to claim 24 be withdrawn.

F. Sixth Ground of Rejection

35 U.S.C. 103(a) rejection as to claims 9, 13, 15-19, 22 and 27 under 35 U.S.C. 103(a) as being unpatentable over Blenke in view of Syndikus, Heikkila, and Cordeiro.

This rejection is traversed for at least the reasons detailed above with respect to the First Ground of Rejection, since the prior art deficiencies discussed in with respect to the First Ground of Rejection are not deemed curable by *Heikkila*.

Claims 15-18 and 22 are separately patentable over the references as applied by the Examiner.

Conclusion

For the reason(s) shown above, Appellant respectfully requests that the rejection under *35 U.S.C. 103(a)*, as to claims 9, 13, 15-19, 22 and 27 be withdrawn.

G. Seventh Ground of Rejection

35 U.S.C. 103(a) rejection as to claims 1-2, 6-7, 12, 14, 23 and 25-26 under 35 U.S.C. 103(a) as being unpatentable over Blenke in view of Syndikus, Heikkila, Cordeiro and further in view of Herrmann.

This rejection is traversed for at least the reasons detailed above with respect to the Second Ground of Rejection, since the prior art deficiencies discussed in with respect to the Second Ground of Rejection are not deemed curable by *Heikkila*.

Claims 1, 7, 12, 14, 23 are separately patentable over the references as applied by the Examiner.

Claim 25

The applied references singly or in combination fail to disclose, teach or suggest the claimed step of “maintaining an axis of said rotary shaft stationary relative to the axes of said press rolls while the elastic members are being fed and oscillated at the same time towards said nip” as argued above in sections 1-2.

Claim 25 is thus separately patentable over the references as applied by the Examiner.

Conclusion

For the reason(s) shown above, Appellant respectfully requests that the rejection under 35 U.S.C. 103(a), as to claims 1-2, 6-7, 12, 14, 23 and 25-26 be withdrawn.

H. Eighth Ground of Rejection

35 U.S.C. 103(a) rejection as to claim 3 under 35 U.S.C. 103(a) as being unpatentable over Blenke in view of Syndikus, Heikkila, Cordeiro, Herrmann and further in view of Liu.

Claim 3

The rejection of claim 3 is traversed for at least the reasons detailed above with respect to claim 1.

Conclusion

For the reason(s) shown above, Appellant respectfully requests that the rejection under *35 U.S.C. 103(a)*, as to claim 3 be withdrawn.

I. Ninth Ground of Rejection

35 U.S.C. 103(a) rejection as to claim 10 under 35 U.S.C. 103(a) as being unpatentable over Blenke in view of Syndikus, Heikkila, Cordeiro and further in view of Liu.

Claim 10

The rejection of claim 10 is traversed for at least the reasons detailed above with respect to claim 15.

Conclusion

For the reason(s) shown above, Appellant respectfully requests that the rejection under 35 U.S.C. 103(a), as to claim 10 be withdrawn.

J. Tenth Ground of Rejection

35 U.S.C. 103(a) rejection as to claim 24.

The rejection of claim 24 is moot as claim 24 has been cancelled.

Conclusion

For the reason(s) shown above, Appellant respectfully requests that the rejection under *35 U.S.C. 103(a)*, as to claim 24 be withdrawn.

Conclusion

Each of the Examiner's rejections has been traversed. Accordingly, Applicant respectfully submits that all claims on appeal are considered allowable. Accordingly, reversal of the Examiner's Final Rejection is believed appropriate and courteously solicited.

If for any reason this Appeal Brief is found to be incomplete, or if at any time it appears that a telephone conference with counsel would help advance prosecution, please telephone the undersigned, Applicant's attorney of record.

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 07-1337 and please credit any excess fees to such deposit account.

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VIII. CLAIMS APPENDIX

1. A process, comprising the steps of:

feeding at least a single continuous web in a machine direction as a component member of a disposable wearing article being continuously manufactured,

feeding continuous elastic members toward at least one surface of said web while said continuous elastic members are oscillated in a cross direction relative to said machine direction, and

attaching said continuous elastic members in a stretched state to said one surface in accordance with a desired layout,

wherein

in the step of feeding said web, the web is fed to a nip between a pair of press rolls substantially being in contact with each other and rotate in said machine direction around respective axes extending parallel to each other in said cross direction;

in the step of feeding said elastic members, the elastic members are fed from upstream of said pair of press rolls to the nip between said press rolls via at least one guiding mechanism that oscillates said elastic members in said cross direction, and

in the step of attaching said elastic members to said web, the elastic members are attached to said web by means of an adhesive;

wherein each of said at least one guiding mechanism comprises:

a motor having a rotary shaft extending in a direction crossing said axes and adapted to repeat reversal of its rotational direction;

an arm connected directly with said rotary shaft and extending in a direction crossing said rotary shaft, said arm being formed on its distal end with a guiding element adapted for passage of said elastic members, and said arm being adapted to swing around said rotary shaft as said rotary shaft rotates,

wherein said arm is formed from a composite material comprising carbon fiber and any one selected from the group consisting of thermoplastic synthetic resin and thermosetting synthetic resin, and has a specific gravity of 1.5 to 1.8 and a bending modulus of 98 to 201 GPa; and

at least one feed member located upstream of said rotary shaft as viewed in said machine direction and adapted to direct said elastic members toward said guiding element; and

wherein, in the course of running from said feed member to said pair of press rolls via said at least one guiding mechanism, said elastic members are attached to said web while said elastic members are oscillated, at a maximum angular acceleration of $15,000 \text{ rad/sec}^2$, in said cross direction by said arm connected directly with said rotary shaft so as to repeat reversal of its swinging direction;

said process further comprising arranging said axes of said press rolls horizontally, said rotary shaft of said motor vertically, and said arm to extend horizontally from said rotary shaft toward said nip between said press rolls.

2. The process according to claim 1, further comprising using a servomotor as said motor.

3. The process according to claim 2, further comprising controlling said servomotor on the basis of a running speed of at least said web in said machine direction and said layout desired for said elastic members.

6. The process according to claim 1, wherein said elastic members are directed from said guiding element to said nip between said pair of press rolls so that said elastic members are positioned in a plane tangential to said press rolls in a region in which said press rolls substantially contact each other.

7. The process according to claim 1, wherein said elastic members extend from said feed member to said guiding element at a deviation angle of 10° or less relative to a horizontal plane.

9. The apparatus according to claim 15, wherein said motor is a servomotor.

10. The apparatus according to claim 9, further comprising a controller, wherein said servomotor is electrically connected with the controller which is programmed to rotate said servomotor on the basis of a running speed of at least said web in said machine direction and said layout desired for said at least one elastic member.

12. The apparatus according to claim 15, wherein said axes of said press rolls extend horizontally, said rotary shaft of said motor extends vertically, and said arm extends horizontally from said rotary shaft toward a nip between said press rolls.

13. The apparatus according to claim 15, wherein said arm extends substantially in a plane tangential to said press rolls in a region in which said press rolls substantially contact each other.

14. The apparatus according to claim 15, wherein said feed member and said guiding element are located so that said at least one elastic member extends from said feed member to said guiding element at a deviation angle of 10° or less relative to a horizontal plane parallel to the axes of said press rolls.

15. An apparatus for feeding at least a continuous web in a machine direction as a component member of disposable wearing articles being continuously manufactured, feeding at least one continuous elastic member toward at least one surface of said web while said at

least one continuous elastic member is oscillated in a cross direction transverse to said machine direction, and attaching said at least one continuous elastic member in a stretched state to said one surface in accordance with a desired layout, said apparatus comprising:

a pair of press rolls substantially contacting each other, said press rolls being rotatable around respective axes extending in said cross direction so as to feed said web in said machine direction, and

a guiding mechanism located upstream of said press rolls as viewed in said machine direction to oscillate said at least one elastic member in said cross direction;

wherein said guiding mechanism comprises:

a motor which has a rotary shaft extending in a direction transverse to said axes and is adapted to repeatedly reverse a rotational direction of said rotary shaft;

an arm connected directly with said rotary shaft and longitudinally extending in a direction transverse to said rotary shaft, said arm being formed on a distal end thereof with a guiding element through which said at least one elastic member is passable, and said arm being adapted to swing around said rotary shaft as said rotary shaft rotates; and

at least one feed member located upstream of said rotary shaft as viewed in said machine direction and adapted to direct said at least one elastic member toward said guiding element;

wherein an axis of said rotary shaft is stationary relative to the axes of said press rolls; and

wherein said arm is formed from a composite material comprising carbon fiber and any one selected from the group consisting of thermoplastic synthetic resin and thermosetting synthetic resin, and has a specific gravity of 1.5 to 1.8 and a bending modulus of 98 to 201 GPa, thereby allowing the servomotor to repeatedly swing said arm at an angular acceleration of up to 15,000 rad/sec².

16. The process according to claim 1, further comprising maintaining an axis of said rotary shaft stationary relative to the axes of said press rolls while the elastic members are being fed and oscillated at the same time towards said nip.

17. The process according to claim 1, wherein said elastic members are attached to said web by means of the adhesive only in regions corresponding to leg openings of the disposable wearing article being manufactured;

said method further comprising

cutting the elastic members between said regions so that the cut elastic members do not extend across an entire width of the disposable wearing article being manufactured, and

attaching an absorbent core to said web, wherein portions of the cut elastic members that have not been attached to said web contract to a relaxed state and are located near transverse edges of the absorbent core.

18. The process according to claim 1, further comprising controlling rotational oscillating movements of the arm of each said at least one guiding mechanism such that a stretching ratio of the elastic members fed by one guiding mechanism is different from that of the elastic members fed by the other guiding mechanism.

19. The apparatus according to claim 15, wherein a rotational axis about which the arm swings coincides with the axis of said rotary shaft.

22. The apparatus according to claim 15, wherein said arm has a full weight of 96 to 121 g, and a full length of 250 to 350 mm.

23. The process according to claim 1, wherein said arm has a full weight of 96 to 121 g, and a full length of 250 to 350 mm.

25. The process according to claim 23, further comprising maintaining an axis of said rotary shaft stationary relative to the axes of said press rolls while the elastic members are being fed and oscillated at the same time towards said nip.

26. The process according to claim 1, wherein said composite material comprises said carbon fiber and said thermosetting synthetic resin.

27. The apparatus according to claim 15, wherein said composite material comprises said carbon fiber and said thermosetting synthetic resin.

IX. EVIDENCE APPENDIX

None

X. RELATED PROCEEDINGS APPENDIX

None